

FIG. 1

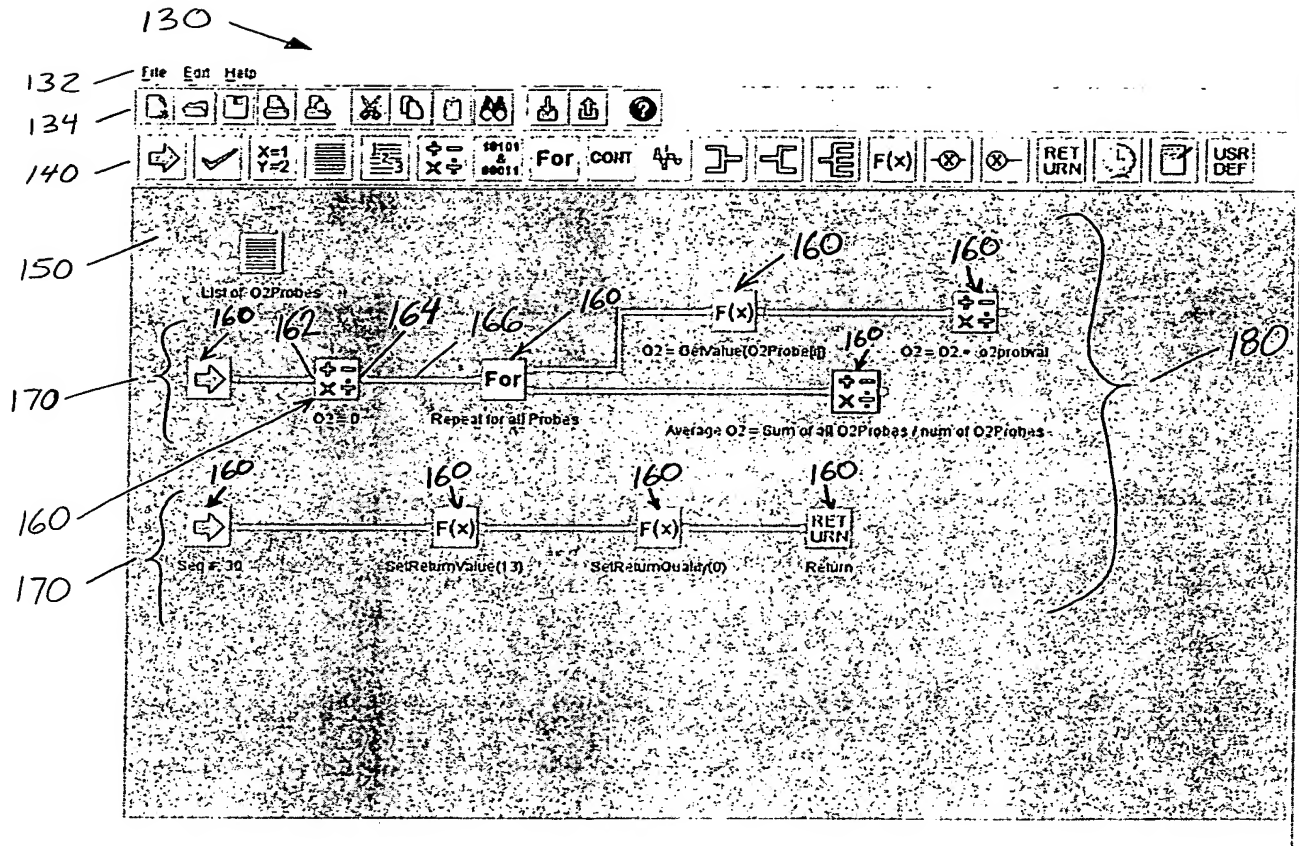


FIG. 2

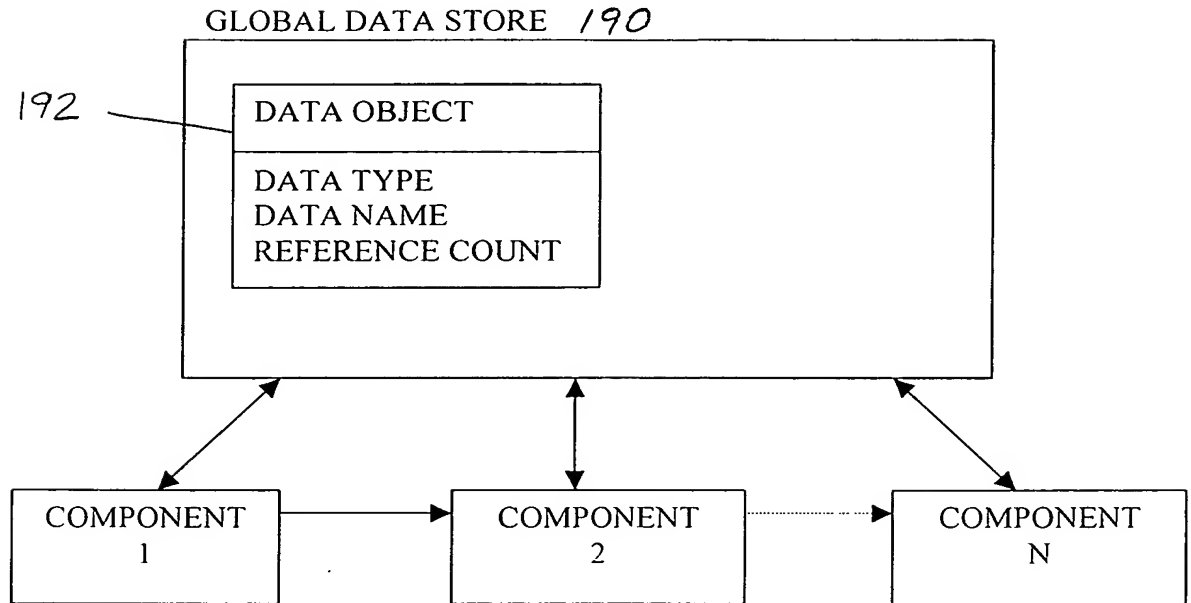


FIG. 3

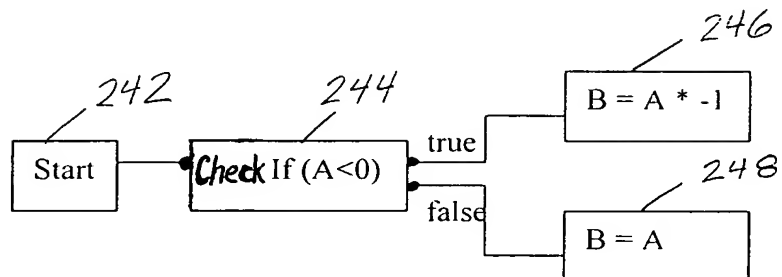


FIG. 5

Generate Code Function

FOR EACH Data Object in Data Store DO

 Generate Data Definition Syntax for the Data

END OF FOR

Generate Syntax for the Main Function

FOR EACH Start Component starting from Lowest Sequence # DO

 CALL Component Code Generate Function on the Component connected
 to the Start Component

END OF FOR

Generate Closing Syntax for the Main Function

End of Generate Code Function

Component Code Generate Function

Generate Component Opening Syntax

FOR EACH Output Port on the Component

 Generate “Pre Call” Syntax

 CALL Component Code Generate Function for the Component connected
 to the Output Port (If any)

 Generate “Post Call” Syntax

END OF FOR

Generate Component Closing Syntax

End of Component Code Generate Function

FIG. 4

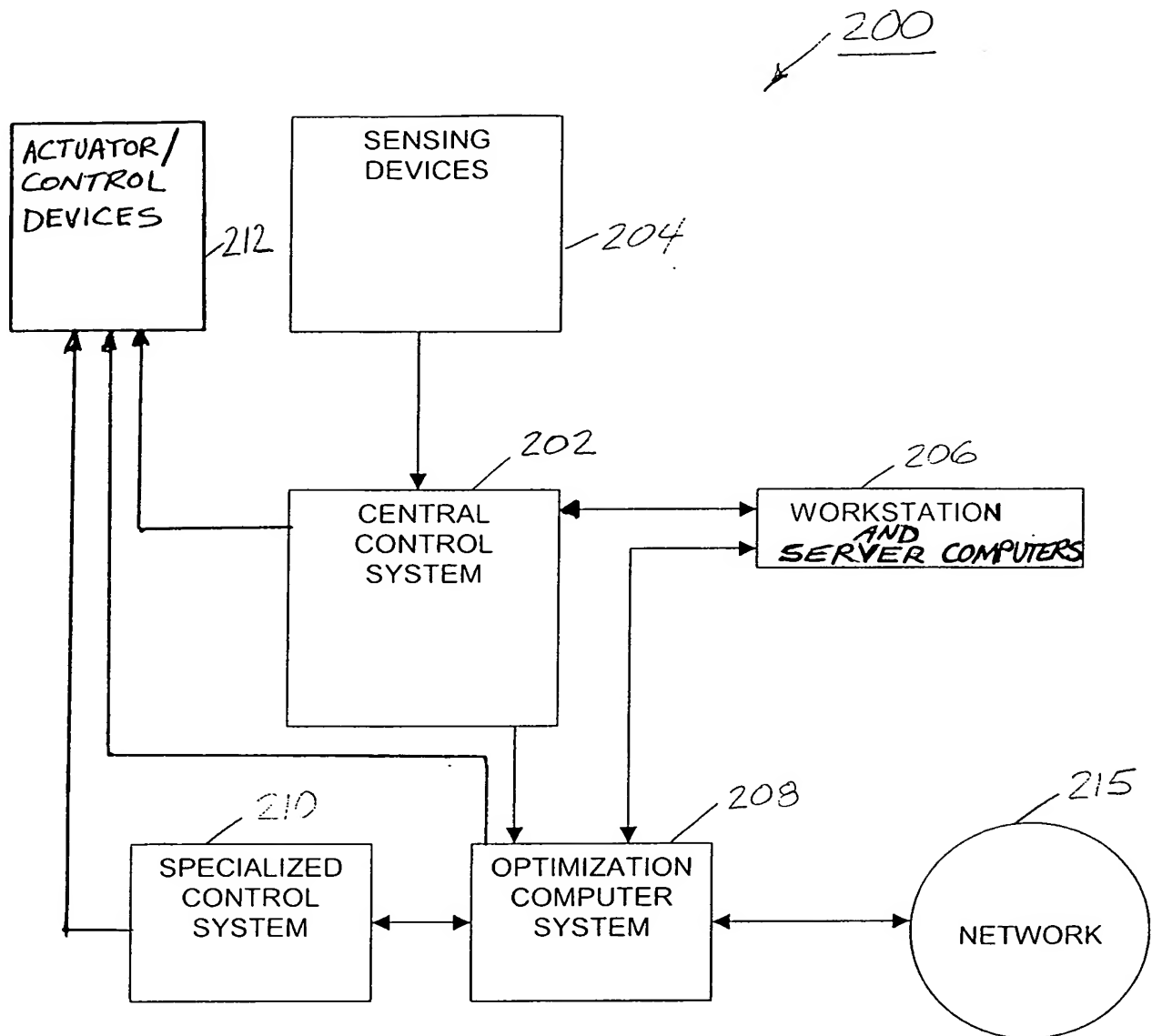
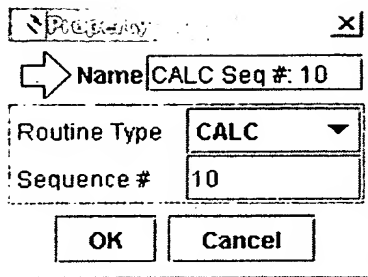
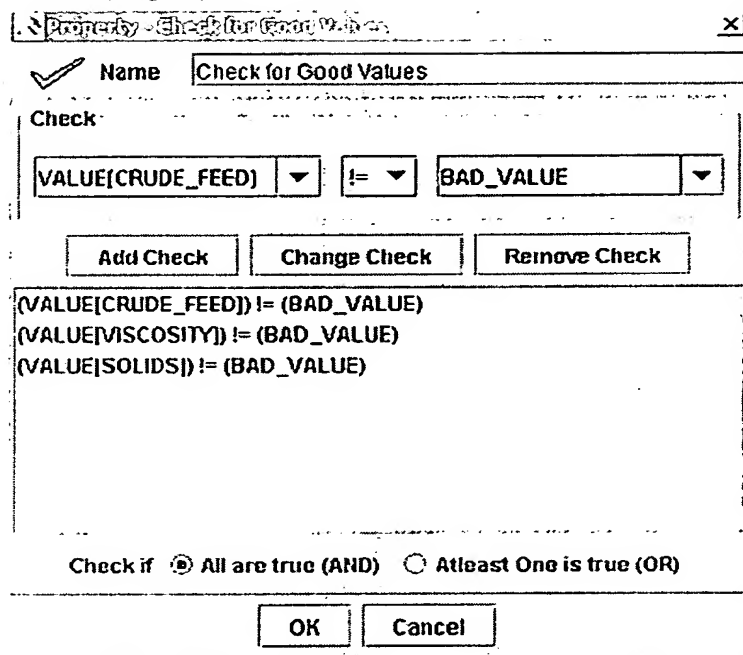


FIG. 6



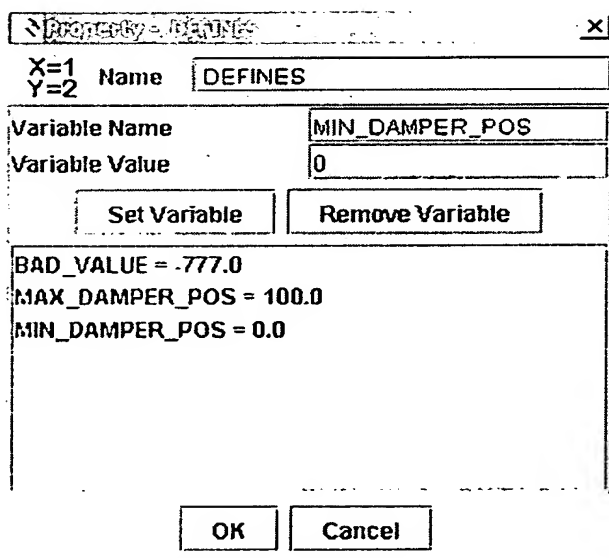
A dialog box titled "Routine Type" with a close button (X) in the top right corner. It contains a "Name" field with the text "CALC Seq #: 10" and a right-pointing arrow icon. Below this, there is a "Routine Type" dropdown menu set to "CALC" and a "Sequence #" text box containing the number "10". At the bottom are "OK" and "Cancel" buttons.

FIG. 7



A dialog box titled "Check for Good Values" with a checkmark icon and a close button (X) in the top right corner. The "Name" field contains "Check for Good Values". Below is a "Check" section with a dropdown menu showing "VALUE[CRUDE_FEED]", an operator dropdown showing "!=", and another dropdown showing "BAD_VALUE". Below these are three buttons: "Add Check", "Change Check", and "Remove Check". A text area below contains the following expressions:
(VALUE[CRUDE_FEED]) != (BAD_VALUE)
(VALUE[VISCOSITY]) != (BAD_VALUE)
(VALUE[SOLIDS]) != (BAD_VALUE)
At the bottom, there is a "Check if" section with two radio buttons: "All are true (AND)" (which is selected) and "Atleast One is true (OR)". "OK" and "Cancel" buttons are at the very bottom.

FIG. 8



A dialog box titled "Defines" with a close button (X) in the top right corner. It has a coordinate indicator "X=1 Y=2" in the top left. The "Name" field contains "DEFINES". Below are fields for "Variable Name" (containing "MIN_DAMPER_POS") and "Variable Value" (containing "0"). There are "Set Variable" and "Remove Variable" buttons. A text area below contains the following definitions:
BAD_VALUE = -777.0
MAX_DAMPER_POS = 100.0
MIN_DAMPER_POS = 0.0
At the bottom are "OK" and "Cancel" buttons.

FIG. 9

Property - 00010001

Name: VALUE[TPL] = vis_pls + sol_pls + cf_pls

Arithmetic Expression

VALUE[TPL] = vis_pls + sol_pls + cf_pls Variables

OK Cancel

FIG. 10

Property - 00010001

Name: MILLMAXS

Array Name: MILLMAXS

Array Size: 5

Array Values: 80.0 70.0 90.0 90.0 100.0

OK Cancel

FIG. 11

Property - 00010001

Name: TEST = 11 AND 11

Bit Operation: MILLSTATUS AND 8

Result Name: MILLSTAT

OK Cancel

FIG. 12

A screenshot of a 'Property' dialog box. The title bar reads 'Property - Repeat for all Mills'. The 'Name' field contains 'Repeat for all Mills'. Below this, the 'Index Name' field is empty. The 'Repeat count' section has two radio buttons: 'Count' (unselected) and 'Size of Array' (selected). To the right of the 'Size of Array' radio button is a dropdown menu showing 'MILLAMPS'. At the bottom are 'OK' and 'Cancel' buttons.

FIG. 13

A screenshot of a 'Property' dialog box. The title bar reads 'Property - Clip VALUE[TPL]'. The 'Name' field contains 'Clip VALUE[TPL]'. Below this, there are three rows, each with a label and a dropdown menu: 'Parameter Name' with 'VALUE[TPL]', 'Lower Threshold' with '0', and 'Upper Threshold' with '100'. At the bottom are 'OK' and 'Cancel' buttons.

FIG. 14

A screenshot of a 'Property' dialog box. The title bar reads 'Property - Call StatsCalc'. The 'Name' field contains 'Call StatsCalc'. Below this, the 'Sub Name' field contains 'StatsCalc' with a dropdown arrow. At the bottom are 'OK' and 'Cancel' buttons.

FIG. 15

A dialog box titled "Property - StatsCalc" with a close button (X) in the top right corner. It contains a "Name" field with the text "StatsCalc" and a "Sub Name" field also containing "StatsCalc". At the bottom are "OK" and "Cancel" buttons.

FIG. 16

A dialog box titled "Property - Get Current Hour" with a close button (X) in the top right corner. It features a clock icon next to the "Name" field, which contains "Get Current Hour". Below the name field are two rows: "Time Format" with a dropdown menu showing "Hour(0-23)", and "Result name" with a text field containing "CurrentHour". "OK" and "Cancel" buttons are at the bottom.

FIG. 17

A dialog box titled "Property - Debug" with a close button (X) in the top right corner. It has a "USR DEF" label and a "Name" field containing "Debug". Below this is a "Custom Line(C Syntax)" field containing the code `printf("DEBUG: VALUE(TPL) = %f\n", VALUE(TPL));`. "OK" and "Cancel" buttons are at the bottom.

FIG. 18

A dialog box titled "Property - Alert Pegasus" with a close button (X) in the top right corner. It includes a notepad icon next to the "Name" field, which contains "Alert Pegasus". Below the name field is an "E-Mail" dropdown menu with the address "support@pegasustec.com". A "Log Message" field contains the text "Hight NOx value. NOx = %CURRENT_NOX". "OK" and "Cancel" buttons are at the bottom.

FIG. 19

Property - vis_pls

F(x) Name vis_pls = PLS(viscosity)

Function APPLIS

Application Name chem

Result Name appnamecheck

OK Cancel

FIG. 20

Property - attenuate = ATTENUATE

F(x) Name ATTENUATE Viscosity

Function ATTENUAT

Value VALUE[VISCOSITY]

Shift 1000

Result vis_attenuated

OK Cancel

FIG. 21

Property - bound = BOUND

F(x) Name BOUND(VALUE(TPL))

Function BOUND

Value VALUE[TPL]

Low Limit 0

High Limit 100

OK Cancel

FIG. 22

A screenshot of a 'Property' dialog box. The title bar reads 'Property - O2 = GetValue(O2Probe1)'. The 'F(x) Name' field contains 'O2 = GetValue(O2Probe1)'. Below this, there are three rows: 'Function' with a dropdown menu showing 'GetValue', 'Parameter' with a dropdown menu showing 'O2_Probe1', and 'Result' with a dropdown menu showing 'o2probval'. At the bottom are 'OK' and 'Cancel' buttons.

FIG. 23

A screenshot of a 'Property' dialog box. The title bar reads 'Property - O2Qual = GetQuality(O2_Probe1)'. The 'F(x) Name' field contains 'O2Qual = GetQuality(O2_Probe1)'. Below this, there are three rows: 'Function' with a dropdown menu showing 'GetQuality', 'Parameter' with a dropdown menu showing 'O2_Probe1', and 'Result' with a dropdown menu showing 'O2Qual'. At the bottom are 'OK' and 'Cancel' buttons.

FIG. 24

A screenshot of a 'Property' dialog box. The title bar reads 'Property - SetReturnValue(AvgO2)'. The 'F(x) Name' field contains 'SetReturnValue(AvgO2)'. Below this, there are two rows: 'Function' with a dropdown menu showing 'SetReturnValue', and 'Return Value' with a dropdown menu showing 'AvgO2'. At the bottom are 'OK' and 'Cancel' buttons.

FIG. 25

A screenshot of a 'Property' dialog box. The title bar reads 'Property - SetReturnQuality(GOOD)'. The 'F(x) Name' field contains 'SetReturnQuality(GOOD)'. Below this, there are two rows: 'Function' with a dropdown menu showing 'SetReturnQuality', and 'Return Quality' with a dropdown menu showing 'GOOD'. At the bottom are 'OK' and 'Cancel' buttons.

FIG. 26

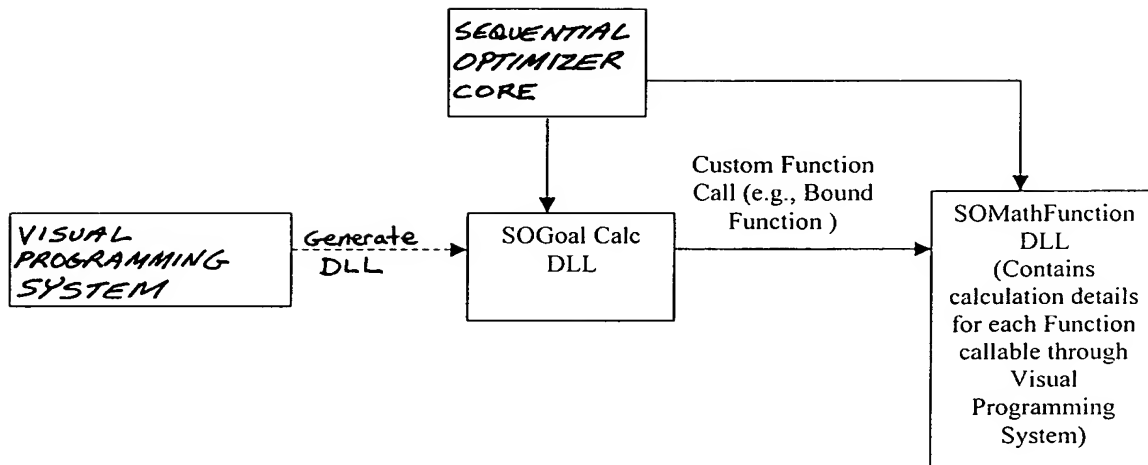


FIG. 27